

The Treatment of Nevus Cell Nevus (Pigmented Nevus)

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■ *There are four reasons for treating nevus cell nevi (moles): (1) The prevention of malignant change; (2) malignant change already present; (3) cosmetic improvement; and (4) anatomical or functional changes.*

Complete removal of the lesion is essential for the former two indications, but partial removal is sometimes all that is necessary for the latter two. Pathological examination is mandatory, no matter which method of removal is used.

THE NEVUS CELL nevus is the most common tumor of the skin, occurring in all people at an average of 20 nevi per person.^{11,12} As this is a common and noticeable tumor, and as the malignant melanoma develops from the nevus cell nevus in the majority if not all instances, it is obvious that the management of nevi is the concern of all physicians and many patients. Fortunately, only about one in every million nevi becomes malignant.¹¹

The treatment of nevi has been greatly influenced by traditional teaching based on little, if any, scientific evidence. For example, trauma, acute or chronic, either accidentally or surgically produced, has been blamed for the stimulation of malignant change in benign nevi. There is no documented evidence that a previously treated histologically proved benign nevus cell nevus has become malignant following trauma of any type. In fact, the evidence that is available concerning the changes that occur in pigmented nevi following partial removal and electrodesiccation with histological observation before and after tends to show that malignant transformation does not occur.^{14,6,7}

Also, incisional methods of biopsy of pigmented tumors suspected of being malignant melanoma have been considered hazardous because of the general belief that cutting into them increases the tendency to lymphatic or hematogenous spread of malignant cells. Again, there is no documented statistical proof that this occurs. Even a limited excision (that is, an excisional biopsy) of a malignant lesion does often pass through cancer-bearing tissue (as is sometimes proved by local recurrences of malignant melanoma) and, if the theoretical objection to an incisional biopsy exists, then it should also apply to limited local excisional biopsy.¹⁰ In these circumstances, shave biopsy and electrodesiccation might be a preferable method of partial biopsy because of the resultant sealing off of lymphatic and blood vessels. Also, there is no evidence that the inflammation or ulceration of a melanoma resulting from trauma accelerates the growth of the lesion.¹

There are four indications for the treatment of nevus cell nevi. First, the possibility of malignant change occurring in a nevus sometime in the future (a pre-malignant active junctional nevus) and treatment is prophylactic as well as diagnostic; second, a suspected malignant change already present, and treatment is again diagnostic and therapeutic; third, cosmetic reasons; fourth, functional and ana-

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tomical changes occurring in a nevus. The latter reasons, including irritation, trauma and infection, do not predispose nevi to malignant change, but removal is often advisable because of the associated nuisance and discomfort. This is particularly true with nevi in certain areas that are recurrently or chronically subjected to these changes, such as the intertriginous areas, the hairy areas and pressure points under articles of clothing. Hairy nevi can also be subjected to painful subneval folliculitis, which is often a recurrent and annoying problem.

The method of treatment of pigmented nevi not only depends upon the indication for removal, but also the size, the clinical and morphological type, the location and the age of the patient. Even in the best circumstances of clinical evaluation of nevi by experts, it is very evident that clinical acumen is not sufficient, and pathological examination of all treated nevi is mandatory.^{13,4} In either of the first two categories, there is a possibility of malignant or pre-malignant change occurring; and complete removal or destruction of the nevus is therefore essential. Any method of treatment may be adopted whereby an adequate biopsy specimen is obtained and the residual nevus cells completely removed or destroyed at the time or in the immediate future. Usually, if the lesion is not too large, simple elliptical excision with primary closure of the wound is the treatment of choice.

In contradistinction, treatment of nevus cell nevi for cosmetic or functional reasons does not always necessitate complete removal or destruction of all nevus cells. Very often, the best result is produced by shaving off the nevus flush with the skin and then gently electrodesiccating the base. However, many physicians assume that, because the nevus has been removed for cosmetic or functional purposes, electrodesiccating or other similar treatment of physical type is always the method of choice. Possibly because of a lack of training or inclination, surgical excision is often neglected when it is the best form of treatment irrespective of the type of nevus or the reason for removal.

The morphology of benign nevus cell nevi influences the choice of method of removal. A good example is the blue nevus, in which the nevus cells are located deep in the dermis and, therefore, a pitted scar is left if the lesion is removed by shave excision and electrodesiccation. It is sometimes difficult to differentiate blue nevus clinically from a malignant melanoma, and excisional biopsy is the best form of treatment.

The hairy pigmented nevus is another example of how gross structure can influence the method of treatment. Even though hairs can first be removed by electrolysis and then later the residual lesion removed by shave excision and electrodesiccation (or comparable methods), it is often simpler to excise the lesion in the first place, thereby producing an equally good cosmetic result. In order to carry out partial shave excision and electrodesiccation and achieve the best result, a lesion should usually have elevation to it; and flat nevi therefore often lend themselves far better to simple excisional biopsy.

The size of nevi is a factor in the choice of treatment. Medium to large nevi are a particular problem, and except for the premalignant active junctional type, are best removed by shave excision and electrodesiccation, or sometimes by piecemeal excisional procedure. Both methods produce a better cosmetic result than reconstructive operation and skin grafting. However, the latter method may be the only one available in the case of very large nevi, such as the bathing trunk type.

Location of the nevus can be a determining factor in the method of removal. Surgical excision of lesions on the back often produces a scar which spreads and is quite unsightly. The same lesion can be removed by shave excision and electrodesiccation with a resultant soft, pliable, smaller scar which does not stretch and usually improves with age. Shave excision and electrodesiccation is the treatment of choice of nevi on the eyebrow, as excisional surgery will remove the hair follicles, thereby reducing or even completely destroying part of the eyebrow. For similar reasons, large nevi on the scalp are better treated by shave excision and electrodesiccation.

The controversy regarding whether nevi on the hands and feet and genitalia should be removed prophylactically still exists. The argument in favor of removal is based on information that shows that the majority, if not all, nevi in these areas are of the true junctional type; and although the hands and feet only constitute 10.5 per cent of the body's skin surface, nevertheless approximately 16.5 per cent of melanomas occur in these areas, and of these 80 per cent are on the feet.^{5,1} This point of view is countered by the various clinical studies showing that approximately one in every six persons has at least one nevus on the palm or sole, and therefore prophylactic extirpation of such lesions would be physically impossible.^{15,8,2}

Subungual nevi appear to be rare. In one investigation no nevi were found in a thousand persons studied; but the subungual melanoma does constitute 3.3 per cent of all melanomas.^{2,3} Therefore, a subungual pigmented tumor, unless it is obviously due to a benign condition such as a wart or subungual hematoma, should always be excised because of the possibility of its being a malignant melanoma.

Comment

All nevi removed should be pathologically examined to determine the type of nevus. Occasionally, clinical errors are made, and if the lesion proves to be a malignant melanoma or a premalignant junctional nevus, then the area can be re-excised widely without affecting the ultimate prognosis.^{13,4} Junctional changes are obviously not in themselves a reason for re-excision, as most nevi, even those that are clinically obviously intradermal in nature, contain some junctional changes.⁹ We have found, from our previous investigations, that usually within one year following partial excision and electrodesiccation of nevi, there is increased junctional activity and pigment formation. Our work so far shows that these changes usually decrease after one year. The clinical importance of this is that sometimes pigment reforms at the site of removal, and that in time may get less or even disappear.¹⁴ If this recurrence of pigment is unsightly or unacceptable to the patient, it can again be removed by shave excision and electrodesiccation. The occurrence of this pigment is fairly common, and its presence should not be, in itself, a sign for wide surgical excision of the area. It occurs more commonly in younger persons and in the more darkly pigmented lesions, and again in lesions which pathologically prove to have a good deal of junctional activity. To avoid recurrence of the pigmented lesions in such individuals, surgical elliptical excision is often the treatment of choice rather than shave excision and electrodesiccation.

Conclusions

Partial removal of pigmented nevi by shave excision and electrodesiccation (or similar methods), accompanied by pathological examination, is the treatment of choice for certain benign nevus cell nevi, depending on morphologic features, size, and location. Active junctional nevi and suspected malignant melanoma should be removed in their entirety, preferably by excisional operation.

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